INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 1995	**Park:** Shenandoah NP
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Additional investigators or key field assistants (first name, last name, office phone, office email):

No co-investigators

Permit#:
SHEN1995ANNP

Park-assigned Study Id. #:
unknown

Project Title:
Metamorphism Of The Catoctin Formation

Permit Start Date: Jan 01, 1998	**Permit Expiration Date** Jan 01, 1998
Study Start Date: Jan 01, 1994	**Study End Date** Jan 01, 1996

Study Status:
Completed

Activity Type:
Other

Subject/Discipline:
Geology / General

Objectives:
To determine the nature; (e.g. regional, burial, and hydrothermal) degree; and physiochemical conditions of metamorphism in the Catoctin Basalt.

Findings and Status:
During 1995, two undergraduate students from the Dept. of Geology, Youngstown State University, Mr. Gregory Senters and Ms. Holly Trimbur, examined 65 petrographic thinsections to determin the metamorphic mineral assemblges. The data has been complide on lithologic bas map of the Catotin Formation.;The most significant finding is that the enire formation now contains metamorphic mineral assebluages occurring in amygdules, viens and in the groundmass. Based on thinsection obervation of 65 samples (collected over a distance of 100 miles), the metamorphic mineral assemblages in the Catoctin Formation consists of varying amounts of quartz, epidote, +- albite, +- chlorite, +- actinolite, +- muscovite, +- biotite, +- stilpnomelane, sphere, +- calcite, +- ilmenite and iron-oxide. The observed mineral assemblages are consistent with metamorphism in the greenschist facies. Subgreenschist minerals such as prehnite, pumpellyite or zeolites have not been observed.;The samples collected have been curated at the Dept of Geology, Youngstown State University. Sixty-five samples have been examined by petrographic analysis. An additional twenty specimnes are in various stages of thin section preparation. One student working on the project is spending ten hours a week working on sample preparation.;Selected additional samples will have thin sections made. Each sample will be examined in order to determine their mineralogy and texture. Approximately five samples wil be selected for electron probe microanalysis.

For this study, were one or more specimens collected and removed from the park but not destroyed during analyses?
No

Funding provided this reporting year by NPS: 0	**Funding provided this reporting year by other sources:** 0

Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college

Full name of college or university:	Annual funding provided by NPS to university or college this reporting year:
n/a	0